DOCUMENT RESUME

ED 167 560 SP 013 969

TITLE	REACT II: Computer-Oriented Curriculum. Description of Teacher Inservice Education Materials.
INSTITUTION	National Education Association, Washington, D.C. Project on Utilization of Inservice Education R & D Outcomes.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	Jun 78
CONTRACT	400-76-0091
NOTE	8p.
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	*Computer Assisted Instruction; Computer Programs; *Computer Science Education; *Curriculum; Elementary Secondary Education; *Inservice Teacher Education; *Instructional Materials; Teachers; *Validated Programs

ABSTRACT

The inservice program described here is designed for teachers who wish to investigate how computers may be applied in various subject areas, including business education, English, mathematics, science, and social studies. Nine booklets are the basic learning tools for REACT II (Relevant Educational Applications of Computer Technology). This program description provides information on the purposes and content of the materials as well as activities and resources involved. A critique, history of development, and ordering information are also included. (DS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED167560

DESCRIPTION OF TEACHER INSERVICE EDUCATION MATERIALS

SUMMARY INFORMATION

Title: REACT II: COMPUTER-ORIENTED CURRICULUM

Publication Date(s): 1971

Intended Users: Inservice teachers who wish to investigate how computers may be applied in various subject areas

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Grade Level(s): Elementary, middle, secondary school

Number: Individual or group

Primary Focus: Of the three REACT courses, this course is directed expressly to the teacher, explaining how computer programs may be applied to specific subject areas.

School subject(s) and/or inservice topic(s) covered:

Application units cover the following subject areas: business education, English, mathematics, science, social studies.

What participant does in using the materials:

The nine books in REACT II will be used most effectively by those who have studied REACT I: Computers in Education: A Survey. REACT II is for study in a workshop environment. Participants work through a series of computer application units, which are intended to increase their understanding and skill in using the computer as a supplement to present course curriculum. Book 7 contains tests which relate to the various application units. These may be used as pretests, posttests, or for participants' final assessment.

Resources:

Nine soft-cover booklets are the basic learning tools for REACT II. (Note: REACT I is a prerequisite.) Some of the program activities require that users work on a teletype, making access to a terminal necessary. The program requires 30 hours of study, and an instructor is needed.

Describer critique:

This is an excellent series on computer application to curriculum. The rationales presented in each booklet which deals with a particular discipline (i.e., English, math, science) should make a great deal of sense to teachers who are faced with introducing the computer into their classrooms. The program's focus on extending and enhancing existing curricula (rather than changing or reversing) is one of its strong selling points.

SP013969

1.0 PURPOSES:

Rationale

The developers offer the following rationale for the program:

"The introduction of the computer to education has necessitated a revolution in thought on the part of educators. In particular teachers have increasingly felt the need to reassess the curriculum, teaching methods and their role as teachers in light of this new technology."

Goals

The developers believe that the computer's "coming of age as an appropriate, useful adjunct to the classroom" has been delayed due, in part, to the "scarcity of complete, understandable materials which demonstrate exactly how a teacher can go about integrating computers with the ongoing curriculum." The goal of this program, then, is to provide teachers with examples of computer uses in several curriculum areas.

Objectives

Each of the booklets which contain application units for the various disciplines provides a list of instructional objectives which relates specifically to that subject.

2.0 CONTENT — Scope and Sequencing of Topics:

Scope

The titles of the nine program booklets and the developers' brief description of their contents are listed below:

1. Business Education: Application Units. "Specific applications are: annuities, loans, mortgages, savings, retail discount, compound interest rates, installment loans." (50 pp.)
2. English: Application Units. "In order to demonstrate the power of the computer as a processor of alphabetic symbols as well as numeric symbols, the book utilizes a program for the study of structure and meaning in poetry." (26 pp.)
3. Mathematics: Application Units. "Some representative applications include: properties of operation, quadratic formula, law of sines, functions and their graphs, graphs of linear equations." (118 pp.)
4. Science: Application Units, Volumes 1 and 2. "Working within the fields of biology, physics, and chemistry the programs demonstrate the role of the computer in calculation, statistical analysis, simulation, and generation of laboratory data." (Volume 1, 64 pp.; Volume 2, 92 pp.)
5. Social Studies: Application Units. "Programs demonstrate the assistance of computers in decision-making, simulation, and storage use and manipulation of large volumes of data as applied to the social sciences." (114 pp.)
6. REACT Computer Program Listings. "Contains program listings for all of the computer programs used in the Application Units manuals. Included among these are the programs that are also used in the series for Course I." (171 pp.)
7. Application Units: Tests. "Contains multiple choice examination questions and answers for each of the units in Course II (Teachers). Tests are suitable for pre-tests and/or post-tests. Binding is designed for classroom distribution of pages." (96 pp.)
8. Application Units: Test Answers. "Answers to the test questions of Course II (Teachers). Binding permits easy distribution of answers to each test independently of others." (102 pp.)

Sequence

REACT I, Computers in Education: A Survey (or an equivalent introductory computer course) is a prerequisite to REACT II. With the program, teachers may elect to use those application units which apply to their area of expertise.

3.0 ACTIVITIES AND RESOURCES INVOLVED IN USE OF PRODUCT

3.1 Description of main inservice activities:

Seven of the nine program booklets deal with specific curriculum application units. For each, a description of the computer program; a rationale for the unit; suggestions for applying the unit to existing curriculum; objectives for student performance; requirements for student preparation; directions for further study; and a complete program run are provided. Participants may break into groups and study a particular application unit together.

3.2 Help given in use of product:

No separate booklet, such as an instructor's guide or implementor's manual, is provided in the program package. However, book 7, Application Units: Tests, and book 8, Application Units: Test Answers are intended for the program instructor. Tests may be selected and used by the instructor as desired.

4.0 EVALUATION OF TEACHER INSERVICE LEARNING

As noted in 3.2, tests are provided with the program. These may be used to preassess participants' knowledge, for intermittent check-up, or as part of a comprehensive final assessment.

PROJECT ON UTILIZATION OF INSERVICE EDUCATION R&D OUTCOMES
National Education Association
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

5.0 ORDERING INFORMATION

5.1 Resources required/recommended for implementing product:

In order to run the program supplied for each application unit, participants need access to a teletype terminal. Developers specify thirty hours as course length. The books also include a "comprehensive review of the resource materials currently available." Organizational arrangements for the course and program supervisor will be supplied by an instructor.

5.2 Distributor name/address:

Tecnica Education Corporation
1864 South State Street, Suite 100
Salt Lake City, Utah 84115

Call Northwest Regional Educational Laboratory for ordering information:
(503) 248-6800

5.3 Components/approximate costs:

Component	Purchase	Rental	No. Req.	Reusable
REACT II: COMPUTER-ORIENTED CURRICULUM (nine books)				
1-20 books:	$24.25			
over 20 books:	$18.60			

Note: unit prices for 1-20 books: Books 1, 2, 4 (Vols. 1&2), 7, 8 - $2.95 each; Books 3, 5, 6 - $3.95 each

unit prices for over 20 books: Books 1, 2, 4 (Vols. 1&2), 7, 8 - $1.95 each; Books 3, 5, 6 - $2.95 each

The work reported herein was supported by the National Institute of Education, Department of Health, Education, and Welfare, Contract No. 400-76-0091. The opinions expressed in this publication do not necessarily reflect the position or policy of the National Institute of Education and no official endorsement by the National Institute of Education should be inferred.

6.0 HISTORY OF DEVELOPMENT

6.1 Identification of the developer:

The REACT programs were developed by the Northwest Regional Educational Laboratory NWREL) under a contract with the U.S. Office of Education, Department of HEW. The materials have been published and are disseminated by Tecnica Education Corporation, Salt Lake City. Dr. Kenneth Simon, Director of Dissemination and Installation at NWREL, oversaw the development and publication of the REACT programs.

6.2 How developed and when:

The Preface to Book 1 provides the following description of the development of the REACT program: "The training program has been developed by NWREL over the past two years (copyright, 1971). During development and evaluation, the REACT courses and materials were tested in a variety of settings. The program was presented as a graduate course for preparing school administrators at the University of Oregon and at the New York Institute of Technology. It was given as an evening extension course through the Multnomah County (Oregon) Intermediate Education District, and as an inservice program at a small rural school in North Bend, Oregon."

6.3 Evidence of effectiveness with users:

The developers provided no results of field testing conducted with the REACT programs, nor did they cite what revisions were made after field testing (see 6.2 for field test history).

DESCRIBER CRITIQUE

Appropriateness / adaptability / technical quality:

The program material is very clearly stated and well planned. Activities relate directly to objectives.

The material on computer application covers a variety of disciplines. The general themes and principles which the texts touch on are applicable to all subject areas and grade levels.

The technical quality of the nine soft-cover booklets is excellent.

Content accuracy/social fairness/community acceptance issues:

The only community acceptance problems that the programs might encounter would be with those people who have not accepted the computer as a part of the classroom. It should be noted that the developers stress that these application units are intended to "supplement and enrich existing learning and teaching methods." In other words, they do not require a reversal or change of existing curriculum.

Overall summary/comment:

This program represents the second stage in a series designed to orient educators to the computer. REACT I will give administrators and teachers a basic understanding of computers and computer language. This program, REACT II, is directed specifically to the teacher and speaks to the issue of the computer's place in the curriculum. (A third program, REACT III, is titled, Computer Applications for Administrators.) All of the programs are very well presented. They speak in language that is understandable and, in fact, very entertaining. Most importantly, the program offers teachers the opportunity to gain actual experience in using the computer in their curriculum.